ABSTRACT OF THE DISCLOSURE

A processor is described which executes an instruction defined to swap the contents of at least one special purpose register (e.g. an MSR or a segment register) and another register. In some implementations, both of the registers are special purpose registers (e.g. a segment register and an MSR). The instruction may be used to provide a pointer to an operating system data structure in a register useable for address generation, and to preserve the content of that register in the other register involved in the swap. For example, in the segment register/MSR embodiment, the MSR may store the pointer and the segment register base address may be used in address generation operations.